

REMARKS

This paper is being presented in response to the non-final official action dated May 18, 2005, wherein: (a) claims 1-4 are pending; (b) claims 1 and 4 have been rejected under 35 USC § 102(b) as being anticipated by German patent publication No. DE 19733941; (c) claims 1 and 4 have been rejected under § 102(b) as being anticipated by U.S. Patent No. 6,179,342; (d) claims 1 and 4 have been rejected as being anticipated by U.S. Patent No. 5,054,819; and, (e) claims 2 and 3 have been rejected under 35 USC § 103(a) as being obvious over DE 19733941 in view of Gounder, U.S. Patent No. 5,255,507. Reconsideration and withdrawal of the rejections are respectfully requested in view of the foregoing amendments and following remarks.

I. Summary of the Claim Amendment

Claim 1 has been amended to further clarify the invention by reciting that the claimed pipework has at least one section with a centerline curving continuously in three dimensions, such that the centerline does not lie within a plane.

II. The 35 USC § 102(b) Rejections Are Traversed

Claims 1 and 4 have been rejected under 35 USC § 102(b) as being anticipated by each of German patent publication No. DE 19733941, U.S. Patent No. 6,179,342, and U.S. Patent No. 5,054,819. See the Action at p. 2. A response to the anticipation rejections is set forth below.

A. Proper Basis for a § 102(b) Rejection

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Thus, a determination that a claim is anticipated under 35 USC § 102 involves two analytical steps. First, the U.S. Patent and Trademark Office (PTO) must interpret the claim language, where necessary, to ascertain its meaning and scope. In interpreting the claim language, the PTO is permitted to attribute to the claims only their broadest *reasonable* meaning as understood by persons having ordinary skill in the art, considered in view of the entire disclosure of the specification. See *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). Second, the PTO must compare the construed claim to a single prior art reference and set forth factual findings that "each and every limitation is found either expressly or inherently [disclosed] in [that] single prior art reference." *Celeritas Techs. Ltd. v. Rockwell Int'l Corp.*, 150 F.3d 1354, 1360 (Fed. Cir. 1998). Additionally, "[t]he identical invention must be shown in as complete detail as is contained in the patent claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989).

B. The § 102(b) Rejection Over DE 19733941 Is Traversed

It is respectfully submitted that claim 1 and claim 4, depending from claim 1, are not anticipated by German patent publication No. DE 19733941. Independent claim 1, as amended, recites pipework comprising at least one substantially rigid pipe having at least one section with a centerline curving continuously in three dimensions, such that the centerline does not lie within a plane. The drawings in the German '941 publication clearly show pipework consisting of two separate elbow bends, one downstream of the other and separated by a straight section of piping, whose centerlines lie in different planes. However, each elbow bend in the German '941 publication is a simple two-dimensional bend (i.e., the centerline of the elbow bend lies in a plane); and at no point does the centerline of either elbow bend curve continuously in three dimensions.

Therefore, the applicants respectfully submit that claims 1 and 4 are not anticipated by the German '941 publication because the German '941 publication does not, either expressly or inherently disclose each and every element as set forth in each of the rejected claims. Accordingly, reconsideration and withdrawal of the § 102(b) rejection of claims 1 and 4 are respectfully requested.

C. The § 102(b) Rejection Over U.S. Patent No. 6,179,342 is Traversed

It is respectfully submitted that claims 1 and 4 are not anticipated by Shen, U.S. Patent No. 6,179,342. As noted above, independent claims 1 and 4 each recite pipework comprising at least one substantially rigid pipe having at least one section with a centerline curving continuously in three dimensions, such that the centerline does not lie within a plane. The Shen '342 patent discloses pipework consisting of an ordinary elbow bend with a centerline curving in only two dimensions, with "an intermediate section 23 having a bulbous configuration" See, e.g., column 3, lines 21-24, and Figs. 3-5 of the '342 patent.

In the official action at page 2, it is asserted that "Shen discloses a pipe for a turbine comprising elbows 24 having [a] rigid portion with [a] centerline curving in three dimension[s]." However, the Shen '342 patent does not disclose a centerline curving in three dimensions, and reference numeral 24 of the Shen '342 patent actually corresponds to "the center 24 of the bend conduit 20..." See, e.g., column 3, line 30 of the Shen '342 patent.

The applicants respectfully submit that claims 1 and 4 are not anticipated by the Shen '342 patent because the Shen '342 patent does not, either expressly or inherently, disclose each and every element as set forth in the claim. Accordingly, reconsideration and withdrawal of the § 102(b) rejection of claims 1 and 4 are respectfully requested.

D. The § 102(b) Rejection Over U.S. Patent No. 5,054,819 is Traversed

It is respectfully submitted that claims 1 and 4 are not anticipated by Grunwald, U.S. Patent No. 5,054,819. As noted above, independent claims 1 and 4 each recite pipework

comprising at least one substantially rigid pipe having at least one section with a centerline curving continuously in three dimensions, such that the centerline does not lie within a plane. The Grunwald '819 patent discloses pipework consisting of an ordinary elbow bend with a centerline curving in only two dimensions, with "the cross-sectional area of the flow passage through the elbow in the form of an irregular ellipse, and by positioning in which the major axis of the ellipse [is disposed] radially outwardly [from the nominal centerline]..." See, e.g., column 6, lines 55-57, and Figs. 6-8 of the Grunwald '819 patent.

In the official action at page 2, it is asserted that "Grunwald discloses a pipe for a turbine comprising elbow 20 having [a] rigid portion with [a] centerline curving in three dimension[s]." Indeed, column 1, lines 27-29 of the Grunwald '819 patent states, "such elbows or bends do not necessarily have the longitudinal axis of the elbow or bend arranged in a single plane." Similarly, column 8, lines 12-17 of the Grunwald '819 patent states, "It is also to be understood that the invention contemplates elbows or bends in which the longitudinal axis L2AX lies other than in the X, Z plane, such as will be the case in a double elbow or offset bend in which the longitudinal axis of the respective ends of the bend lie in X, Y planes displaced one from the other." However, the Grunwald '819 patent does not disclose or suggest an elbow section with a centerline curving continuously in three dimensions, such that the centerline does not lie within a plane. Figs. 6-8 of the Grunwald '819 patent actually show an elbow having a 2-dimensional curve, as evidenced by the centerline, L2AX, being depicted as a straight line in Fig. 7.

The applicants respectfully submit that claims 1 and 4 are not anticipated by the Grunwald '819 patent because the Grunwald '819 patent does not, either expressly or inherently disclose each and every element as set forth in the claim. Accordingly, reconsideration and withdrawal of the § 102(b) rejection of claims 1 and 4 are respectfully requested.

III. The 35 USC § 103(a) Rejection is Traversed

Claims 2 and 3 have been rejected under 35 USC § 103(a) as being obvious over the German '941 publication in view of Gounder, U.S. Patent No. 5,255,507. See the Action at p. 3. A response to the obviousness rejection is set forth below.

A. Proper Basis for a § 103(a) Rejection

The PTO "has the burden under § 103 to establish a prima facie case of obviousness." *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). To establish a prima facie case of obviousness, the PTO must satisfy three basic criteria. First, the PTO must show that the combined disclosure of the prior art references teaches or suggests all of the claim limitations. See MPEP § 2143 (8th ed., May 2004). Moreover, it is "incumbent upon the

examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference." *Ex parte Levy*, 17 USPQ2d 1461, 1462 (Bd. Pat. App. & Inter. 1990).

Second, where obviousness is alleged to arise from a combination of elements across a plurality of references, the PTO must show the existence of some suggestion, motivation, or teaching to those skilled in the art to make the precise combination recited in the claims. See *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1320 (Fed. Cir. 2004). Compliance with this requirement prevents the PTO's use of "the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability — the essence of hindsight." *Ecolochem, Inc. v. Southern Cal. Edison Co.*, 227 F.3d 1361, 1371-72 (Fed. Cir. 2000) (quoting *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999)). Evidence of a suggestion or motivation to combine prior art references may come from "the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved." *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1125 (Fed. Cir. 2000). The PTO's showing "must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not 'evidence.'" *Id.* (quoting *In re Dembiczak*, 175 F.3d at 1000). Indeed, the U.S. Court of Appeals for the Federal Circuit has consistently held that a person having ordinary skill in the art must not only have had some motivation to combine the prior art teachings, but also some motivation to combine the prior art teachings in the particular manner claimed. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) ("Particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.").

To support a conclusion that a claimed combination is prima facie obvious, either (a) the references must expressly or impliedly suggest the claimed combination to one of ordinary skill in the art, or (b) the PTO must present a convincing line of reasoning as to why a person of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. See *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985); see also, *In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976). The mere fact that the prior art could be modified as proposed by the PTO is not sufficient to establish a prima facie case of obviousness. See *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992). The PTO must explain why the prior art would have suggested to one of ordinary skill in the art the desirability of the modification. *Id.*; *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998) ("In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.").

Finally, the PTO must demonstrate that a person having ordinary skill in the art would have a reasonable expectation of success when combining the disclosures of the references. The suggestion or motivation to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and must not be derived by hindsight from knowledge of the application's disclosure. *In re Dow Chem. Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988); MPEP § 2143.

**B. No Prima Facie Case of Obviousness Has Been Made
and, therefore, the § 103(a) Rejection is Traversed**

The German '941 publication and the Gounder '507 patent **do not** teach or suggest all of the limitations recited in claims 2 and 3. Thus, no prima facie case of obviousness has been made in the instant action, and none exists based on the combination of the applied publications. Accordingly, reconsideration and withdrawal of the § 103(a) rejection are respectfully requested.

As set forth in detail above in Section II.B of this paper, the German '941 publication patent does not disclose or suggest an elbow section with a centerline curving continuously in three dimensions, such that the centerline does not lie within a plane.

The deficiencies in the German '941 publication's disclosure are not remedied by the disclosure in the secondary reference, i.e., the Gounder '507 patent. The Gounder '507 patent does not disclose, either expressly or inherently, pipework comprising at least one substantially rigid pipe having at least one section with a centerline curving continuously in three dimensions, as recited in each of the pending claims. The action does not set forth a prima facie case of obviousness because the action does not demonstrate that the applied prior art publications disclose each and every recited claim limitation. See MPEP § 2143 (stating that the PTO must show that the combined disclosure of the prior art references teaches or suggests all of the claim limitations). Indeed, the applied prior art publications do not disclose each and every recited claim limitation. Accordingly, reconsideration and withdrawal of the rejection are requested.

Prima facie obviousness under § 103 is a legal conclusion — not a fact. *In re Rinehart*, 531 F.2d at 1052. The foregoing response identifies facts (e.g., evidence that the prior art fails to disclose claimed elements) rebutting the alleged legal conclusion that the claimed invention is prima facie obvious. These facts must be evaluated along with the facts on which the legal conclusion was originally reached — not the legal conclusion itself. Having requested herein reconsideration of the legal conclusion set forth in the official action, the PTO is obligated to address all of the evidence and base its forthcoming legal conclusion(s) on such evidence, uninfluenced by its earlier conclusions. *Id.*

CONCLUSION

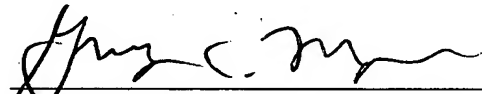
In view of the foregoing, entry of the amendments to claim 1, reconsideration and withdrawal of the objection and rejections, and allowance of all pending claims 1-4 are respectfully requested.

Should the examiner wish to discuss the foregoing, or any matter of form or procedure in an effort to advance this application to allowance, the examiner is urged to contact the undersigned attorney.

Respectfully submitted,

MARSHALL, GERSTEIN & BORUN LLP

October 18, 2005



Gregory C. Mayer (Reg. No. 38,238)
Attorneys for Applicants
6300 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606-6357
Telephone: (312) 474-6300